Cretaceous Formations of the West," 1875; "The Vertebrata of the Tertiary Formations of the West," 1883; and "The Extinct Vertebrata obtained in New Mexico," 1877. It was in recognition of this work that, in 1879, he was awarded the Bigsby Medal of the Geological Society of London. The loss of a portion of his private fortune led Cope, in 1889, to accept the professorship of Geology and Mineralogy at Pennsylvania University. This post he held till 1895, when he was transferred to the professorship of Zoology and Comparative Anatomy. In that year also he was elected President of the American Association for the Advancement of Science. From 1878, with A. S. Packard, and from 1887, with J. S. Kingsley, he was a chief editor of the *American Naturalist*, a journal that has had its periods of financial difficulty and irregular publication, but which, under Cope's direction, has always been interesting, vigorous and independent, playing a much-needed part in a country where so much scientific work is under the control of political placemen.

Cope's zoological work has lain among the Vertebrata, especially their lower Classes. Beginning in 1859, with a paper on "The Primary Divisions of the Salamandridæ," published by the Philadelphia Academy, the stream of contributions poured out by him has reached a total of over four hundred. By his study of recent and fossil forms in conjunction, he has thrown much light on the history of the Reptilia and Amphibia, leading to many profound changes in classification. Two of his most important essays in this direction were those published so long ago as 1865–66: "On the Primary Groups of the Batrachia Anura" and "On the Arciferous Anura." His work on the extinct ancestors of the Amphibia, the direct progenitors also of the Mammalia, was some of the most successful and suggestive that he accomplished. His important paper on "The Systematic Relations of the Fishes" was published by the American Association in 1871; much of the material on which this was based was the famous collection of skeletons made by Prof. Josef Hyrtl, of Vienna, and acquired by Cope for his own museum. Cope was one of the first to deduce the Ungulata from ancestors with quadri-tubercular molars, and with five-toed, plantigrade feet. This was in 1874; and it was he too, who, some ten years later, was the first to maintain that this type of molar in the upper jaw was derived from a tri-tubercular type, while in the lower jaw it was derived from a quinque-tubercular type, or a tri-tubercular type with a heel supporting two additional tubercles. The additions to, and the discussions that have taken place around, this theory are well known. Cope's discovery of Phenacodus, the celebrated fossil ancestor of the Ungulata, proved in his masterly hands "an important event in the history of our knowledge of the evolution of the Mammalia." The sub-order to which it belongs, the Condylarthra of the Lower Eocene, "stands to the placental Mammalia in the same relation as the Theromorphous order does to the Reptilian orders. It generalises the characteristics of them all, and is apparently the parent stock of all excepting, perhaps, the Cetacea."

It was not, however, Cope's technical zoological work in the domain of Vertebrata, excellent though it was, that made him such an influence in American biology; it was his constant application of his results to wider philosophical problems, especially of evolution, both physical and metaphysical. He, more than any one (though the name of Alpheus Hyatt should not be passed by), has been the founder of that peculiarly American school of thought which has no doubt met with much opposition on both sides of the Atlantic, but which nevertheless has promoted discussion and investigation along many lines. Cope's main contributions to the philosophy of biology were first brought together in that volume of suggestive essays entitled "The Origin of the Fittest" (Macmillan: London and New York, 1887), while his conclusions were summarised, and his present position stated in the "Primary Factors of Organic Evolution" (Open Court Co., Chicago, 1896). That position, as was abundantly evident from Dr. Russel Wallace's review of the last-named book in NATURE (vol. liii. p. 553), did not win the approval of our English ultra-Darwinians, nor, indeed, were the views of the American school easily approved by Darwin himself. But abuse and ridicule cannot hinder the admission that the conclusions (or speculations, if you will) of Cope and others did lead to the discovery and scientific coordination of many undoubted facts, having much bearing on questions of descent. Moreover, many of Cope's audacious hypotheses are now the commonplaces of evolutionists. It is nearly thirty years since his establishment of the doctrine that the development of new characters has been accomplished by an acceleration or retardation in the growth of the parts changed; an idea expressed independently by later workers as the earlier or later inheritance of acquired characters (Cænogenesis, Haeckel). Thus, the adult of an ancestral individual is the exact parallel of a younger stage in its descendant—a limitation of, and yet an advance on, Von Baer's statement of inexact parallelism. Cope, too, was the first to point out that genera—as genera then were understood—were "homologous groups" descended from other "homologous groups"; as we now say, genera are polyphyletic. Retaining the old boundaries of a genus, he regarded it as a grade of evolution. Nowadays there are some who maintain such orders, families and genera, though fully appreciating their polyphyletic origin; while others believe that a group of organisms once proved polyphyletic can no longer be regarded as a unit of classification. These latter workers seek to classify organisms according to their true lines of descent, and they therefore elevate as diagnostic other characters than those so regarded by their predecessors, characters as a rule less obtrusive and of less physiological importance. Whether the older view of Cope, powerfully expressed by Huxley in our own country, or this newer view ultimately prevail, the credit of first putting the problem is due to Cope.

More Lamarckian than Lamarck, Cope rendered the "besoin" of the French philosopher by "effort," regarding animals as in some sort working out their own salvation. The definiteness of variation, in which he believed, and the definiteness of evolution, which all accept, he imagined to be due to the action of a "growth-force" ("bathmism"), thus approaching the views of Naegeli. This force acts, according to Cope, through a kind of unconscious memory, with which faculty the reproductive cells are endued. Thus, as the result of his apparently mechanical conception of the details of evolution, he came at length, along a road that was all his own, to the conclusion of many a philosopher: "that consciousness as well as life preceded organism, and has been the *primum mobile* in the creation of organic structure . . . that the true definition of life is, *energy directed by sensibility, or by a mechanism which has originated under the direction of sensibility*."

F. A. B.

NOTES

It has been felt by many entomologists, for some time past, that several of our more interesting and local British insects are in danger of extermination from over-collecting. Accordingly, the Council of the Entomological Society of London appointed a representative Committee to consider the matter. The Committee found themselves unable to recommend any means of affording protection by enactment, as has been done for birds, or even by approaching landowners to induce them to check collecting on property where such species occur. In many cases such insects are found on poor and uncultivated lands belonging to small proprietors, to whom the presence of an army of collectors is a source of profit. It was suggested, however, that the opinion of entomologists might be stimulated, and an impulse given to their endeavours, by the formation of an association for the protection of such insects. Accordingly, such an association has been formed under the auspices of the Entomological Society, and the following memorandum has been numerously signed. "We the undersigned, being desirous of protecting from extermination those rare and local species of insects which are not injurious to agriculture nor to manufactures, do hereby agree, by our own example and by the exercise of our influence over others, to discourage the excessive collection and destruction of those species of insects which, from their peculiar habits, are in danger of extermination in the United Kingdom. We further agree to accept for the purposes of this Association such list of species in need of protection as shall be drawn up, and, if necessary, from time to time amended by the Committee of the Entomological Society of London appointed to that end." The Association is open to any one interested in the preservation of our indigenous insect-fauna. The Hon. Secretary is Mr. C. G. Barrett, 39 Linden Grove, Nunhead.

MISS CATHERINE WOLFE BRUCE, of New York City, to whom astronomy all over the world is indebted for liberal and intelligent benefactions, proposes to found a gold medal, to be awarded not oftener than once a year by the Astronomical Society of the Pacific, for distinguished services to astronomy. The medal is to be international in character, and may be given to citizens of any country, and to persons of either sex. The design for the obverse of the medal is the seal of the Astronomical Society of the Pacific. The medal is to be 60 mm. in diameter. The reverse is to bear the inscription: "This medal, founded A.D. MDCCCXCVII, by Catherine Wolfe Bruce, is presented to —— (name) for distinguished services to Astronomy —— (date)." The Astronomical Society regularly awards a bronze medal, also, founded in 1890 by the late Joseph A. Donohoe, for the discovery of each unexpected comet.

THE fourth annual exhibition of the New York Academy of Sciences was held in the Museum of Natural History, on April 5 and 6. Exhibits were made in fourteen departments; but as the catalogue fills 54 pages, limits of space forbid us giving even an enumeration of the more important. The astronomical exhibit included reproduction of plates of clusters and nebulæ, taken at Arequipa, Peru, with the Bruce photographic telescope; prints from photographs of stars, at the Yerkes Observatory of the University of Chicago; and copies of photographs of the moon, at the Lick Observatory, the latter including negatives from enlarged photographs used in making the Lick Atlas of the Moon, which is to contain a map 36 × 38 inches in diameter when completed. Conspicuous in the chemistry exhibit was an array of electric furnaces, including the one used by Moissan in his address before the Academy last October. In the electrical exhibit were included some fine pieces of apparatus, notably Pupin's circuit-breaker and induction-coil, which gives a 30-inch spark. It would require a separate article to do justice to the section of physics, owing to the many new and valuable forms of apparatus shown. One of the exhibits consisted of a row of seven Bunsen burners, with aluminium tubes, to show (*a*) the seven spectrum colours with the evaporated salts; (*b*) to produce monochromatic light in considerable quantities; (*c*) to produce a pure Bunsen flame of great intensity as a light for photography, and illustrating its high actinic intensity; (*d*) to heat long tubes, as a substitute for a combustion furnace. Among the exhibits in the zoological section were a map and a relief model of the Zoological Park of New York City, which has finally been definitely located in Broux Park, in the trans-Harlem portion of the city, a locality well adapted for the purpose. A salient feature of the exhibit in this section was the large and diversified collection from the Pacific Coast, made by the Columbia University Expedition of 1896.

WE regret to see the announcements of the deaths of Dr. Eduard Freiherr v. Haerdtl, professor of theoretical astronomy in the University of Innsbruck; Dr. J. Breitenlohner, professor of meteorology and climatology in the Agricultural High School, Vienna; Dr. A. A. van Bemmelin, director of the Zoological Garden at Rotterdam; and Dr. J. F. James, known for his writings in palæontology, botany, and geology.

NOTWITHSTANDING rather boisterous weather, the usual Easter expeditions of the Liverpool Marine Biology Committee have been carried on with success, and the Port Erin Biological Station has never been so full of workers as it has been, and will be, during the whole of the present month. During the actual Easter vacation, the rather limited accommodation has been more than fully occupied. The Lancashire Sea-Fisheries steamer, *John Fell*, has been at Port Erin, and several dredging excursions have been made in it. Spawning fish were procured to the west of the Isle of Man, and the tanks in the Biological Station now contain developing lemon soles and witches, and a cross between the megrim and the cod.

THE success which has attended in Germany the introduction of the system of "pot experiments," as a means of elucidating problems of agricultural science, has at various times engaged the attention of the Chemical Committee of the Royal Agricultural Society. More especially has this been the case, since the bequest made to the Society by the late Mr. E. H. Hills—"for the investigation of the value and uses of the rarer forms of ash in the cultivation of crops for the use of stock and for human food"—called for the setting on foot of a definite plan of experimental inquiry. With a view of seeing how this inquiry could be best carried out, Dr. Voelcker visited the Agricultural Experimental Stations in Germany, and, acting upon his advice, the Chemical Committee have recommended that the inquiries directed under the Hills Bequest be carried out by the system of "pot experiments," in conjunction with "field experiments," as already conducted by the Society at the Woburn Farm. The sum of 1035*l.* required to establish the pot-culture station has been voted by the Society, and it has also been decided to make an annual grant of 200*l.* to the Chemical Committee to supplement the annual income of 200*l.* from the Hills Bequest, and so enable researches other than those covered by the bequest to be carried on at the same time. The report of the Chemical Committee will be found in the current number of the *Journal* of the Royal Agricultural Society.

AT the last meeting (April 14) of the Russian Geographical Society, Baron Osten Sacken read a telegram which he had received from Sven Hedin, the well-known Swedish traveller in Central Asia, announcing that he had crossed Tibet (Northern Tibet) by following a route which lies somewhat to the south of General Pyerstoff's route; during that journey he discovered 23 new salt lakes, four of which are of considerable size. Notwithstanding the great difficulties of the journey, and the loss of 44 beasts of burden out of 50, all collections are safe. From Tibet, Sven Hedin went through Mongolia to Pekin, and towards the end of May he expected to be in St. Petersburg.

THE month of March is proverbially stormy, and this year it was exceptionally so, as not less than seventeen distinct depressions, or areas of atmospheric disturbance, were experienced over these islands, and in some cases the storms were of exceptional violence. The Pilot Chart of the North Atlantic Ocean, published by the Hydographic Office of Washington, states that the month was marked by some exceptionally severe weather over the North Atlantic, especially in the higher latitudes, where the gales followed each other so rapidly that the bad weather was almost continuous, while on some days a full hurricane was recorded. A few of the captains of vessels reported that they had never before encountered such a long period of unusually severe weather. A glance at the chart shows that at least three of the storms crossed from the American to the British coasts. It is interesting to note that the barometric pressure in the vicinity of the Azores, from February 18 to March 14, was constantly above the normal, varying from 30·3 to 30·7 inches; consequently the weather during the same period for that region, and to the southward, was generally fine, the cyclones, or low-pressure areas, following the usual course of passing to the northward of the Atlantic anti-cyclone or area of high barometric pressure.

Prof. H. C. Bumpus has critically examined more than 1700 eggs of European and American sparrows, in order to determine the differences between them. The results of his observations were recently communicated to the American Morphological Society. It was found that the American eggs presented a much greater amplitude of variation, both in shape and colour, than the European, that they were smaller, and were also of a strikingly different shape. The large proportion of extreme colour variation found to exist in the case of American eggs is not only interesting in itself, but when the figures are compared with those representing extreme variation in *shape*, the significance of both results is enhanced. Not only is the preponderance of variation among American eggs very obvious, but in both cases, in shape and in colour, it is almost precisely the same. Prof. Bumpus concluded that the data, whether gathered from comparisons of length, ratio of breadth to length, shape or colour, all point in the direction of a general structural modification. The observations have thus an important bearing upon the current theories of degeneration, panmixia, &c.

In connection with the paragraph referring to injurious effects apparently produced by X-rays (p. 541), Mr. J. Lynn Thomas, assistant surgeon to the Cardiff Infirmary, calls our attention to a note he contributed on the subject to the *British Medical Journal* (March 27). He is of the opinion that these affections are the result of the strong currents in the vicinity of the tubes, and not due directly to the X-rays. Mr. Thomas also says he has noticed that different regions of the glass of a Röntgen lamp in action are under varying electrostatic stresses; the dark half of the lamp, as a rule, attracts light bodies, such as pith-balls, more strongly than the half through which the X-rays emanate. Sometimes the pith-balls are attracted and repelled at a great speed from the glass on the dark side, whilst they are attracted only upon the apple-green side.

The bacteriological diagnosis of typhoid fever, as such, has long been a matter of difficulty; but since the introduction of Widal's ingenious application of Pfeiffer's sero-diagnosis of cholera, there seems to be a hope of obtaining some definite clue to the bacterial verification of this disease. Widal takes the blood of a patient suspected to be suffering from typhoid fever, and he mixes ten drops with a recent broth-typhoid-culture, and examines a drop of this mixture under the microscope. If the blood is really derived from a typhoid patient, the bacilli, instead of presenting the usual appearance, are seen to be gathering together in innumerable small heaps throughout the microscopic field. This behaviour of typhoid bacilli is claimed by Widal to be specific to the presence of typhoid blood, and is not exhibited in the presence of blood taken in other kinds of disease. The power of typhoid blood to produce this characteristic result on the bacilli is dependent upon the condition of the patient, for as recovery progresses it is not so marked; thus, whereas during the illness the reaction is visible when only one drop of blood is added to sixty or eighty drops of typhoid broth, at a later stage of recovery it will not bear so much dilution, and the proportion varies from one drop of blood to twenty, ten, or even less of broth. Prof. Pfuhl has made many interesting control experiments in typhoid diagnosis by means of Widal's method, and fully confirms his results; he has, moreover, succeeded in still further simplifying the process, and describes his work in a recent number of the *Centralblatt für Bakteriologie*.

The scientific exploration of lakes has been renewed in Russia by the exploration of Lake Chudskoye, or Peipus, in the lake district of North-west Russia; and Lake Charkhal, which lies in the Kirghiz Steppe, to the south-east of Uralsk, and has thirty-two miles of circumference. The results of both are given, with maps, in the last number of the *Izvestia* of the Russian Geographical Society (xxxii. 4). Lake Chudskoye was studied in detail, as regards the configuration of its bottom, the distribution of temperature in its water, and the chemical constitution of its bottom deposits. As to the exploration of Lake Charkhal, by several members of the Ural Naturalists' Society, it may be taken as a model for similar studies. It was made by several persons at once, and while some of them mapped the lake and the surrounding country, others measured its depths, and others again studied its fauna and flora. The chief point of interest with regard to the fauna is that the herring which was found in the lake was not, as subsequent comparisons proved, the common Caspian herring (*Clupea Caspia*, or *Cl. kessleri*), as might have been expected, but was nearest to the small herring which inhabits the northern tributaries of the Black Sea, and was described by Nordmann, in his *Faune pontique*, as *Clupea cultriventris*. A special variety is consequently established: *Cl. cultriventris*, var. *Tscharchaliensis*. The question now arises, how could it have penetrated into Lake Charkhal? Occasionally the lake is still in communication with the Ural River: so it was in 1887; but the *Cultriventris* herring, which is a brackish-water species, is never met with either in the Caspian Sea or in its tributaries. The most probable hypothesis would thus be that Lake Charkhal is a *Relictensee*, as German geographers say; that is, a remainder from the old Ponto-Caspian Sea. The Charkhal *Leuciscus rutilus*, var. *Heckelii*, is also nearer to the Black Sea variety than to the Caspian variety. Passing by other interesting remarks about the fauna of this lake—its ice formation, the oscillations of its level, and fishing (3000 to 17,000 cwt. every year)—we only remark that its flora is extremely poor; no living algæ could be obtained by dredging, but the bottom of the lake is full of decaying plants, carried thither by the rivers.

The influence of music upon the respiration, the heart, and the capillary circulation is the subject of a paper, by MM. A. Binet and J. Courtier, in the *Revue Scientifique* (February 27). Experiments were made upon a well-known musical composer, and the investigators endeavoured to determine effects produced by musical sound alone, as distinct from those due to emotions aroused by pieces associated with dramatic incidents or words. Isolated notes, chords in unison, and discords were first tried. Both major chords struck in a lively manner and discords quickened the respiration, the latter more especially. Minor chords tended to retard respiration. When melodies were tried it was found that all, whether grave or gay, produced quickened respiration and increased action of the heart. The lively tunes produced the greatest acceleration. Where the sound was wholly uncomplicated by emotional ideas, as in single notes or chords, the heart's action was accelerated, but not in so marked a degree as when a melody either grave or gay was played. During operatic pieces, or those well known to the subject, the acceleration attained its maximum. The influence of music on the capillary circulation was tested by a plethysmograph attached to the right hand. The capillary tracings showed that a slight diminution of pulsation was usually produced by musical sounds, the effect being very small when sad melodies were played, but well-marked when lively airs were played.

THE popularity of Darwin steadily grows in Russia—the last edition of his chief works, by Madame Popoff, being evidently intended for a very large circulation. It includes, in two octavo volumes, the autobiography, the voyage of the *Beagle*, the origin of species, the descent of man, and the expression of the emotions, translated from the last editions by Profs. Beketoff, Timiryazeff, and A. Kovalevsky, with a portrait of Darwin, and is sold at the very low price of nine shillings (4 roubles 50 copeks) for the two volumes. Another edition of separate works of Darwin is published at the same time by a scientific review (*Nauchnoie Obozreniye*). It is also worthy of note that an abridged translation of Buckle's "History of Civilisation," very well produced in one volume by M. Notovich, and published in a cheap two-shilling edition, went through nine editions, which were rapidly followed by five one-shilling editions.

THE evolution of money is a fascinating study, and has been ably dealt with by Prof. Ridgeway in his "Origin of Metallic Currency and Weight Standards." The last contribution to this history is a paper, by Dr. A. Götze, in *Globus* (Band. lxxi. p. 217), in which he shows that some silver bars, excavated by Schliemann from the second lowest layer at Hissarlik, are of the same general form as the flat bronze axe-heads. Their shape precludes their being ornaments, and the material of which they are made prevents their having been used as implements; they were, therefore, probably used as a medium of trade. Numerous bronze axe-heads have been found, along with ring-money, in such a way as to suggest that they were employed as a medium for barter. The conclusion, therefore, is that the actual axe-head formed a popular unit for barter. This was later copied in silver, and even in iron, as Dr. Götze proves, to serve as a regular currency; the final term in the series, as Prof. Ridgeway has pointed out, is the axe-inscribed coinage of Tenedos. Dr. Götze also suggests that the "tongue of gold," looted by the luckless Achan from Jericho (Joshua vii. 21, 24), was a similar golden model of a bronze celt or axe-head.

THE Anthropological Reports of the Horn Expedition to Central Australia forms not the least valuable result of that notable expedition. Dr. Stirling undertook the anthropological investigations of the Arunta tribe in the McDonnell Ranges, and he has performed his task in a very satisfactory manner. Careful observations, such as these, of a tribe as yet scarcely influenced by civilisation, cannot fail to be of value, even though the opportunities afforded to the explorers were not as ample as could have been wished. We learn that Prof. Baldwin Spencer has since spent several months with this tribe, and his investigations will doubtless supplement those of the Horn Expedition. Dr. Stirling has wisely incorporated some very valuable ethnographical notes by F. J. Gillen, special magistrate and subprotector of aborigines. In addition to observations on the social organisation, religion, initiation and other ceremonies, corrobboree, and habits of life, the ornaments, weapons, and implements are carefully described. The gesture language is recorded and illustrated by sketches. Three coloured plates are devoted to representations of rock drawings. One very satisfactory feature of the Report is the prominence given to physiological and medical observations; few travellers have the necessary knowledge of, or interest in such matters. The Report is illustrated with twenty capital plates; many of these are half-tone blocks from photographs by Mr. Gillen. Some of these illustrate various ceremonies, the initiatory rites being the most fully represented. This is just the class of work that is so urgently needed at the present day, and we trust that other wealthy Australians will feel it their duty to fit out anthropological expeditions before it is too late.

THE *Annales* of the Central Physical Observatory of St. Petersburg for the year 1895, forming two large quarto volumes, have just been issued. They include an appendix, recommended by the recent Meteorological Conference in Paris, viz. a list of the periodical publications in Russia containing meteorological observations. By direction of the Imperial Academy of Sciences, the explanatory text is now in French, instead of German, and the preface contains a useful note upon the French orthography of Russian geographical names. This will be of much assistance in transliteration and pronunciation. Somewhat similar directions were given in our columns on February 27, 1890; notwithstanding this, we generally find that in English the equivalent for the Russian sound *zh* is rendered by *j* (which would be correct in French), and that *v* is rendered by *w* (which would be correct in German). On July 1 a fire unfortunately occurred in the building for absolute magnetic observations, and most of the instruments were destroyed, but the records were continued in another building with other instruments. The daily weather chart issued by the Central Physical Observatory extends over an immense area, embracing Vardö, in latitude 60° N.; Malta, in the south; the west coast of Ireland, and the limits of Eastern Siberia. Telegraphic reports are received from 186 stations, and weather charts are constructed thrice daily; when necessary, storm warnings are issued to the ports in the Baltic, the Black Sea, and the Sea of Azov. The new Director of the Russian Meteorological Service is General M. Rykatchef, well known as the author of several valuable discussions in maritime meteorology.

ONE of the most important functions of the Agricultural Experiment Stations in the United States, is to give farmers a better knowledge of the scientific principles underlying their work. To this end two excellent little *Bulletins* (Nos. 139–140) have lately been distributed by the Michigan State Agricultural College Experiment Station. Their subjects are: "Bacteria: what they are, and what they do"; and "Ropiness in Milk"; and the author is Dr. C. E. Marshall. The science of bacteriology has entered into such an intimate relation with the farmer, because of its connection with the dairy, the soil, the diseases of animals and plants, and his surroundings, that some knowledge of it has become indispensable to him, if he wishes to keep up with the times. This knowledge the Michigan Experiment Station proposes to give to the agriculturists of the State by means of short and simply-written bulletins, to be issued from time to time. The first bulletin of the series contains a good general account of bacteria, and the means of studying them. This paves the way for the reports of experiments, such as are contained in the bulletin on ropiness of milk. The Station has, in fact, undertaken to publish, by means of these bulletins, a general survey of bacteriology, with special reference to those phases of the science applicable to agricultural interests. The influence of such bulletins as these, in educating the farmer, cannot be over-estimated. It would be to the advantage of British agriculture if useful and accurate scientific information of the same character could be disseminated by agencies similar to the agricultural experiment station in the United States.

THE additions to the Zoological Society's Gardens during the past week include two Grey Ichneumons (*Herpestes griseus*) from Ceylon, presented by Mr. R. J. Davis; a Bauer's Parrakeet (*Platycercus zonarius*) from Australia, presented by Dr. Clement Godson; two Common Cassowaries (*Casuarius galeatus*) from Ceram, deposited; four Shovellers (*Spatula clypeata*), three Common Teal (*Querquedula crecca*), European purchased.